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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,579	08/24/2001	Luca Chiarabini	60004720-3	5207
7590	04/05/2005		EXAMINER	
HEWLETT-PACKARD COMPANY Intellectual Property Administration P. O. Box 272400 Fort Collins, CO 80527-2400			PENDERGRASS, KYLE M	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/935,579	CHIARABINI ET AL.	
	Examiner	Art Unit	
	Kyle M Pendergrass	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 08/01.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-8, 10-13 & 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Noghani.

Regarding claim 1, Noghani teaches a method of downloading data to a computing device (*sections 2-5, Component-based Download (CBD), FSTP & CBD-FSTP*) comprising steps of: segmenting a data file into a plurality of portions (*section 2, "file should be divided into several components"*), said data file being available on a content source (*section 2, "servers maintaining the file components"*); independently downloading each of said plurality of portions to a computing device (*section 2, "when user [i.e. computing device] attempts to download a file...connections are established...[with] servers maintaining the file components [and] all components get downloaded simultaneously"*), wherein each of said plurality of portions are configured to be combined into a single data file on said computing device (*section 2, "Finally, the components on the user's machine [i.e. the computing device] get appended to each other reconstituting the original file"*).

Regarding claim 2, Noghani teaches the method as claimed in claim 1, wherein at least some of said plurality of portions are approximately equal to 1 Mb in size (*Table 1, a 4.5 Meg file is divided 3 times into 1.5 Mb components, each approximately 1 Mb in size*).

Art Unit: 2624

Regarding claim 3, **Noghani** teaches the method as claimed in claim 1, wherein at least two portions of said plurality of portions have the same size (*page 4, section 4.1, "...packet size is fixed...using [the same size]... packets..."*).

Regarding claim 4, **Noghani** teaches the method as claimed in claim 1 further comprising steps of: creating a second data file in the computing device having size substantially equal to the size of said first data file before the step of independently downloading; and storing said plurality of portions in the second data file (*page 5, left column, "The client... [takes] note of the file's size from the previously acquired listing"*).

Regarding claim 5, **Noghani** teaches the method as claimed in claim 4, wherein said step of independently downloading comprises a step of downloading a first predetermined number of bytes of said first data file starting from a first positioned byte of said first data file (*page 4, right column, "...packet size is fixed..." Therefore the predetermined number of bytes is fixed and the first position byte is predetermined based on the packet size*).

Regarding claim 6, **Noghani** teaches the method as claimed in claim 5, wherein said step of independently downloading further comprising a step of downloading a second predetermined number of bytes of said first data file starting from a second positioned byte of said first data file, said second positioned byte being positioned from said first positioned byte by approximately said first predetermined number of bytes (*page 4, right column, "...packet size is fixed..." Therefore the predetermined number of bytes is fixed and the first position byte is predetermined based on the packet size, and the second position byte starts based on the first byte position and the difference created from the first number of predetermined bytes*).

Art Unit: 2624

Regarding claim 7, Noghani teaches the method as claimed in claim 1, further comprising a step of downloading at least two of said plurality of portions by simultaneous threads (*page 7, left column, “parallel/concurrent connections...[are] implemented using threads*).

Regarding claim 8, Noghani teaches the method as claimed in claim 7, wherein four or more of said plurality of portions are downloaded by simultaneous threads (*Table 1 & page 7, section 5, threads are used with multiple simultaneous connections. Office interprets this as including any number of simultaneous connections*).

Regarding claim 10, Noghani teaches the method as claimed in claim 7, wherein said step of downloading further comprises a step of establishing another simultaneous thread with said computing device for independently downloading another portion of said plurality of portions, if the number of currently active threads is less than a predetermined threshold (*the number of servers are finite and threads depend on server number, therefore threads will be established until a predetermined threshold, i.e. the max number of servers, is met*).

Regarding claim 11, Noghani teaches a server (*page 7, section 5, “servers”*) connectable to a plurality of computing devices through a network, said server being operable to receive a selection of a data file over said network from a computing device (*page 2, right column, “user establishes ...connection...with...server [for downloading the document]*), segment said selected data file into a plurality of portions and independently download each of said plurality of portions to said computing device (*section 2, “file should be divided into several components”, “when user [i.e. computing device] attempts to download a file...connections are established...[with] servers maintaining the file components [and] all components get downloaded simultaneously”*).

Regarding claim 12, Noghani teaches the server of claim 11, wherein said server is further operable to download at least two of said plurality of portions to said computing device by simultaneous threads (page 7, left column, “parallel/concurrent connections...[are] implemented using threads).

Regarding claim 13, Noghani teaches the server of claim 12, wherein at least four of said plurality of portions are downloaded by simultaneous threads (Table 1 & page 7, section 5, threads are used with multiple simultaneous connections. Office interprets this as including any number of simultaneous connections including 4).

Regarding claim 15, Noghani teaches the server of claim 12, wherein said server is operable to download another portion of said plurality of portions by another simultaneous thread if the number of currently active threads is less than a predetermined threshold (the number of servers are finite and threads depend on server number, therefore threads will be established until a predetermined threshold, i.e. the max number of servers, is met).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hines (US 6 392 758).

Regarding claim 16, Hines teaches a printing method comprising the steps of:

Art Unit: 2624

receiving a data stream including a data file from a remote content source through a network (Fig. 3 ref. no. 118, 120, wherein image data from application program is sent to printer system);
storing a first portion of said data file received in said stream (Fig. 3 ref. no. 312, col.9 line 40-53, wherein one or more data bands are stored in the buffer);
transmitting said first portion of said data file to a printer for printing (Fig. 3 ref. no. 310, 1 10 and in col. 9 line 61-col.10 line 3 and col. 10 line 15-19 wherein language monitor continues to receive data band while printing); and
storing a second portion of said data file received in said stream while said first portion is printing (Fig. 3 ref. no. 312, 314, and in col. 10 line 16-17, where data received by language monitor is gathered in buffer similar to the step of gathering the first portion of data).

Regarding claim 17, **Hines** teaches the method of claim 16, further comprising steps of:

determining whether said first portion has completed printing and transmitting said second portion to said printer in response to said first portion having completed printing (Fig. 3 ref. no. 314, 316 and 1 10, col. 10 line 18-19, wherein data from buffer is continually retrieved for printing);
and determining whether said second portion is completely received in response to said first portion not being completely printed (*Fig 3 ref. no. 312, column 9:lines 46-53 explains storing the first band in memory which thereafter stores subsequent bands & column 9:lines 58-61, column 10:lines 15-19, wherein subsequent portions follow the step of retrieving and printing first data portion. Since the second portion is stored prior to printing, a determination is made as to whether or not the portion has been completely received*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2624

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines (US 6 392 758), as applied to claim 16 above, in view of Murphy (US 6 031 624).

Regarding claims 18-20, **Hines** is relied on for the teachings of claim 16 above but **Hines** fails to teach a step of adjusting a size of said second portion, wherein said step of adjusting further comprises steps of: determining a data transfer rate over said network between said remote content source and a computing device performing said steps of claim 16; and adjusting said size depending on the data transfer rate, wherein said size of said second portion is adjusted to be greater than said size of said first portion if said data transfer rate is greater than a predetermined threshold, and said size of said second portion is adjusted to be less than said size of said first portion if said data transfer rate is less than a predetermined threshold.

However, the printing method of **Murphy** includes the steps of: determining the block size of first portion before print engine starts printing (*column 15:lines 42-44, wherein the threshold value is the block size in buffer*); pinging the content source to calculate data transfer speed (i.e. link speed) (*column 15:lines 48-50 mentions the evaluating of data transfer rate, and further in column 13:lines 26-45, wherein Murphy fully describes the operation of "pinging" i.e. the transmission of data packets from the content source and acknowledgment of receipt by the printer*); and adjusting the block size based on the data transfer speed (*column 15:lines 42-50, mentions the calculation of threshold buffer size based on data transfer speed further described in column 12:line 37-55*); and setting a first block size if data transfer is one speed or a second block size if data transfer speed is another speed (*column 15:lines 42-50, wherein setting the threshold value for the buffer size can be interpreted as the conditional setting of block sizes*).

Hines and **Murphy** are combinable because they are from the same field of endeavor i.e. parallel processing of print jobs.

Art Unit: 2624

At the time of invention, it would have been obvious to combine the adaptive data block size determination steps of **Murphy** with the band printing method of **Hines**. The motivation to do so would have been to: a) minimize communication between client processor and printer if multiple client processors are connected to the printer in a network; b) set the most efficient data block size to be sent for printing based on data transfer rate between printer and client processor so as to achieve the goal in (a) using a well-utilized method of pinging destination device; c) prevent printer buffer overflow when there is a backlog of print jobs in a network printer by setting smaller data blocks; d) maximizing use of printing resources by continuously and simultaneously buffering and printing data.

Claims 9 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noghani & Gasior et al. (US 6 691 166).

Regarding claim 9, **Noghani** teaches the method as claimed in claim 7, but does not teach wherein said step of downloading further comprises a step of establishing another simultaneous thread with said computing device for independently downloading another portion of said plurality of portions, if a data transfer speed for any of the currently active threads is approximately greater than or equal to 20 Kb/s.

However, **Gasior et al.** teach transferring data using simultaneous threads. A thread is created for additional segments to be transferred when the speed of one thread reaches a value above the other threads, which includes 20 Kb/s. See column 5:line 64 - column 6:line 4.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the additional thread transfer taught by **Gasior et al.** in the **Noghani** teachings because of the reasons outlined in *column 6:lines 25-31 of Gasior et al.*

Regarding claim 14, **Noghani** teaches the server of claim 12, wherein said server is operable to download another portion of said plurality of portions by another simultaneous thread if a data transfer speed for any current active threads is approximately greater than or equal to 20 kb/s.

Art Unit: 2624

However, **Gasior et al.** teach transferring data using simultaneous threads. A thread is created for additional segments to be transferred when the speed of one thread reaches a value above the other threads, which includes 20 Kb/s. See column 5:line 64 - column 6:line 4.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the additional thread transfer taught by **Gasior et al.** in the **Noghani** teachings because of the reasons outlined in *column 6:lines 25-31 of Gasior et al.*

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Pendergrass whose telephone number is **(571) 272-7438**. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on **(571) 272-7440**.



KING Y. POON
PRIMARY EXAMINER